

REMARKS/ARGUMENTS

Applicant responds herein to the Office Action dated August 23, 2005. A Petition for Extension of Time (one month) and the fee therefor are enclosed.

Claims 1-5, 7 and 9-11 stand rejected on grounds of anticipation by Turner (WO97/27617). Claim 6 stands rejected on grounds of obviousness over the aforementioned Turner reference, in further view of Guenter (EP 1,124,089). Lastly, claims 8, 12 and 13 stand rejected over Turner, in view of Roberts (4,658,179). Reconsideration is requested in view of the following remarks.

In the introductory pages of the instant specification, the applicant directly addresses a major distinction between the prior art and the present invention. Referring to "Conventional Art" Figure 1, applicant explains that the bulb 60 passes through a rear mirror 70 via a hole 72. The bulb is rotatable in the hole 72 and this causes a problem in the form of degradation in light reflection efficiency. See the paragraph bridging pages 3 and 4 of the instant specification.

The instant invention differs from Conventional Art Figure 1 in the fact that the applicant provides an integrally formed rear mirror which rotates with the bulb.

In short, the Office Action relies on prior art which is constructed and has the functionality of what applicant describes as "Conventional Art", as distinct from the instant invention.

Addressing the foregoing in more detail, the lighting apparatus using microwave energy of the present invention comprises a magnetron 30 disposed inside a casing 10 for generating microwave energy, a waveguide 40 for guiding the microwave energy, a resonator 50 that provides a resonant region in which the microwave energy is resonated, a bulb 60 disposed inside the resonator, the bulb 60 being filled with a material which emits light when excited by the microwave energy. Lastly, a rear mirror 75 is integrally fixed to a rear of the bulb for forwardly reflecting light which is emitted from the bulb in a rearward direction.

In marked contrast, the microwave electrodeless lamp of the primary Turner reference comprises a magnetron 10 disposed inside a casing for generating microwave energy, a waveguide 27 for guiding the microwave energy, a resonator 20 that provides a resonant region in which the microwave energy is resonated, a bulb 21 disposed inside the resonator and which is filled with a material which emits light when excited by the microwave energy and a reflector 50 which includes an aperture 53 formed with a larger diameter than that of the stem 25 of the bulb. The stem 25 of the bulb rotatably passes through that aperture 53.

The foregoing observation about the prior art cannot be reconciled with the assertion in the Patent Office that the reference anticipates claims 1-5, 7 and 9-11. A rejection based on anticipation requires identical structure in the reference and in the claim, which does not exist here.

In Turner, there is no disclosure beyond the teaching that the reflector 50 has an aperture 53 through which the stem of the bulb 21 rotatably passes. Therefore, their reflector does not rotate with the bulb, which directly contradicts a basic premise of the present invention, which teaches that the rear mirror is integrally fixed to the rear of the bulb, which perforce requires that the rear mirror 75 rotates when the bulb 60 rotates.

Thus, both structurally and functionally, the present claims differ from the cited primary reference. That is, since in the present invention the rear mirror is integrally fixed to the bulb without any aperture being provided, the loss of light which passes through an aperture in prior art devices is effectively prevented. In that manner, the lighting efficiency of the lighting apparatus of the present invention is substantially improved.

Furthermore, since the rear mirror integrally rotates with the bulb, heat transmitted to the rear mirror is more easily dissipated, thereby preventing thermal damage such as peeling away of a coated layer of the rear mirror.

The foregoing remarks are applicable to claims 6, 8, 12 and 13 as well and, as such, it is respectfully submitted that all of the claims in the application are clearly distinguishable over the prior art of record.

Accordingly, the Examiner is respectfully requested to reconsider the application, allow the claims as amended and pass this case to issue.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, Washington, D.C. 20231, on December 23, 2005

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Respectfully submitted,

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